

Periscope.

THE ANATOMY OF THE NERVOUS SYSTEM.

The Posterior Commissure of the Brain. L. DARK-SCHIEWITSCH, *Neurol. Centralbl.*, No. 5, 1886.

The posterior commissure can be separated into two parts, a ventral and a dorsal part. The fibres in the ventral part can be traced easily in fœtuses, as their calibre is greater than that of the dorsal fibres, and they become medullated at an earlier age. They arise from the upper part of the oculomotor nucleus, and from the posterior longitudinal fasciculus, and curve dorsad around the central gray matter of the aqueduct of Sylvius, thus reaching the posterior commissure. After crossing the median line in this they turn dorsad and end in the pineal gland. The fibres of the dorsal part become medullated so late that it is difficult to separate them from other systems of fibres in the human fœtus. D. has therefore traced them in rabbit's brains.

He finds that they arise from the second layer of white fibres in the corp. quad. ant., that they pass dorsad and cross in the posterior commissure, and then turn cephalad and enter the internal capsule, through which they are continued to the cerebral cortex (what region?) This statement is accompanied by two figures in which the course of the fibres described is supposed to be shown. The continuity of the fibres in the ventral bundle with those of the posterior longitudinal fasciculus is, however, by no means evident. In fact, these fibres appear to terminate in an area of the tegmentum just external to that occupied by the post. longitudinal fasciculus. It is exactly in this area that the bundle of fibres is to be found which Wernicke has described (*Lehrbuch d. Gehirnkr.*, I., 99) as entering the tegmentum from the posterior commissure, and which Spitzka has found atrophied (*JOUR. NERV. AND MENT. DIS.*, April, 1885, p. 221,) in a cat after destruction of the opposite optic thalamus and posterior commissure. The figure, therefore, supports the statements of Wernicke and Spitzka rather than those of the author. It is unfortunate that he seems unaware of the researches here referred to, for the results of the atrophy method are fully as reliable as those of the

embryological method, and conclusions which are not supported by both methods conjointly must be looked upon with distrust.

The Connections of the Inferior Peduncle of the Cerebellum with the Posterior Columns of the Cord. L. DARKSCHEWITSCH and S. FREUD, *Neurol. Centralbl.*, No. 6, 1886.

It is well known that the inferior peduncle of the cerebellum is made up of numerous bundles of fibres collected from different parts of the cord and medulla. The authors of this article describe a cross section of the peduncle as an elliptical figure somewhat bent inward at its extremities and consisting of three parts. There is a central portion divided into a ventral and a dorsal half and a peripheral portion surrounding the two inner halves. The ventral half of the central portion is continuous with the direct cerebellar column of the spinal cord. The dorsal half of the central portion is connected with the nuclei of the posterior column of the cord. The peripheral portion is connected with the opposite olivary body. There is no difference of opinion regarding the first and third of these constituents of the inferior peduncle. Views have been held regarding the connection of the nuclei of the posterior columns of the cord with the cerebellum which are incompatible (See *JOUR. NERV. AND MENT. DIS.*, July, 1884, p. 348, and Jan., 1885, p. 107). The authors have, therefore, reviewed the various opinions and have examined a series of sections through foetal medullæ with the result of establishing the following facts :

The nucleus cuneatus extends cephalad for a much greater distance than the nucleus gracilis, and in its upper part lies in the dorsal half of the inner portion of the inferior peduncle, forming the "nucleus of the restiform body" of Wernicke. From it fibres enter the inferior peduncle, thus connecting it with the cerebellum. Fibres also issue from it and pass ventrad as fibræ arcuatae. These cross the middle line in the so-called sensory decussation, but instead of turning cephalad in the interolivary tract they continue ventrad and pass between the lateral border of the pyramid and the olivary body to the surface of the medulla, where they become arciform fibres and, curving around the lateral surface of the medulla dorsad, they enter the inferior peduncle of the cerebellum. The same course is traced for a few fibres from the nucleus gracilis. Thus each nucleus cuneatus and gracilis sends fibres to both inferior peduncles of the cerebellum. This course had been previously described by Edinger, so that these researches are merely confirmatory of his position. The authors also confirm his statements regarding the entrance into the inferior peduncle of short arcuate fibres from the nuclei gracilis and cuneatus. (See *JOUR. NERV. AND MENT. DIS.*, Jan., 1885, p. 108).

On the Effect of Hardening Methods upon the Microscopic Appearances in the Spinal Cord. After a review in *Neurol. Centralbl.*, No. 1, 1886.